PEREGRINUS

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PETER PEREGRINUS

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Epiſtle of Peter Peregrinus of Maricourt/
to Sygerus of Foncaucourt/ Soldier/ con-
cerning the Magnet.

Beginneth the Treatiſe of the Magnet.

Chapter i. Of the ſcope of the Work.

After being ſolicited by you/ inmoſt of friends/ I Will diſcloſe in rude narration a certain acult nature of the lodeſtone. For indeed nothing has been pleaſurable to Philoſophers apart from the ſharing of the knoWledge of it/ becauſe the nature of good things Wanders and is obſcured in darkneſs until it is brought up into the beams of public dedication. ¶ This treatiſe is of the magnet and contains tWo parts of Which the firſt is in ten chapters. ¶ The ſecond part is compriſed in three chapters. ¶ The firſt chapter of the firſt part is on the ſcope of the Work. ¶ The ſecond chapter/ What an inveſtigator in this ſubject ought to be. ¶ The third chapter on the recognizing of the ſtone. ¶ The fourth chapter on the ſcience of finding the parts of the ſtone. ¶ The fifth chapter on the finding of the poles in the ſtone/ Which of them is the North and Which is the South. ¶ The ſixth chapter hoW one magnet

attracts another magnet. ☞ The seventh chapter how iron drawn by a magnet turns towards the poles of the World. ☞ The eighth chapter how a magnet draws iron. ☞ The ninth chapter how the Northern part attracts the Southern/ and conversely. ☞ The tenth chapter on the inquiry Whence a magnet receives the essential Virtue/ Which it possesses. ☞ Of the second part the first chapter is on the construction of an instrument by Which is known the Azimuth of the Sun and of the Moon and of any star on the horizon. ☞ The second chapter on the construction of another better instrument for the same purpose. ☞ The third chapter about the theory of the construction of a Wheel of perpetual motion.

FOr love of you therefore I will write down in plain language things Which to the bulk of students are utterly unknown. Nevertheless We shall not communicate in this epistle any information save about the manifest properties of the stone/ on the ground that this teaching will form part of a Tract/ in Which We shall show how to construct physical instruments. To treat of the occult properties of this stone leads us to the art of engraving stones. And although I may call those

actions

actions manifeſt/ concerning Which you haſe inquired/ yet they Will be of no eſteem/ and in the eyes of the Vulgar as illuſions and phantaſms. And therefore beeauſe they are ſecrets to the common people/ but Will be manifeſt to Aſtrologers and Naturaliſts/ they Will alſo be a ſolace to them/ juſt as they Will likeWiſe be of no ſlight aſſiſtance to traſellers Who haſe gone far aWay.

Chapter ij. What an inſeſtigator in this ſubject ought to be.

Bot knoW/ deareſt friend/ that the inſestigator in this ſubject muſt underſtand nature/ nor muſt he be ignorant of the celeſtial motions: but he muſt himſelf be very diligent in handicraft alſo/ in order that through the operation of this ſtone he may ſhoW Wonderful effects. ℙ For by his carefulneſs he Will be able in a ſhort time to correct an error Which in an age he could not poſſibly do by means of his knoWledge of nature and mathematics/ if he lacked carefulneſs in uſe of hands. For in ocult operations We ſearch out much by manual induſtry: and for the moſt part Without it We can make nothing perfect or complete. ℙ For there

there are many things subject to the empire of reason/ Which things We cannot completely investigate by the hand. From these therefore it is clear What the qualifications of an investigator of this subject ought to be.

Chapter iij. Of the recognizing of the Stone.

NOW this stone is to be recognized by four distinguishing characteristics/ namely/ colour/ homogeneity/ Weight/ and Virtue. It should they be of an iron colour and livid/ mingled With indigo or sky-blue/ so that it is like unto polished iron tarnished by foul air: for such a stone I have never seen Without great power. And such stone is found as a rule in Northern parts/ and is reported by sailors in all the ports of the Northern seas/ as for example in Normandy/ Picardy/ and Flanders. ℘ This stone should also be homogenic in substance/ since that Which has rusty spots/ and small holes/ is not choice: and a magnet is scarce found Without such defects. ℘ Such a stone also/ on account of its homogeneity/ and the good compacting of its subtile parts/ is rendered heavier/ and is deemed Weightier in price. ℘ But its Virtue is discerned through

through the ſtrong attraction of iron/ and of a great Weight/ of the manner of Which attraction I Will ſpeak lower down. If therefore you ſhall find a ſtone With theſe marks/ get hold of it if you can. It therefore appears by What marks the recognizing of this ſtone is elicited.

Chapter 18. Of the Science of finding the parts of the ſtone.

SO you muſt know that this ſtone bears in itſelf the ſimilitude of the heavens/ the method of proving Which I Will explain clearly how to find/ lower down. And on this Wiſe: that there are two points in the heavens more noteWorthy than the reſt/ becauſe the celeſtial ſphere turns about them as upon axes: One of theſe is named the Arctic or North pole/ Whilſt the remaining one is named the Antarctic or Southern. So in this ſtone you ſhould thoroughly comprehend there are two points of Which one is called the North, the remaining one the South. To the general diſcovery of theſe two points you may attain by manifold induſtry: And one Way is/ To have this ſtone rounded With a tool With Which cryſtals

ſtals and other ſtones are wounded. Afterwards let a Needle/ or a bar of iron/ ſlender after the faſhion of a needle/ be placed over the ſtone/ and along the length of the iron let a line be marked out dividing the ſtone along the middle: Afterwards let the needle or the iron be placed in another poſition over the ſtone/ and mark the ſtone with a line again in the ſame way according to that poſition: And if you wiſh/ you ſhall do this in ſeveral places or poſitions/ and without doubt all the lines of this kind will meet in two points/ juſt as all the meridian circles of the World meet in the two oppoſite poles of the World. Know you then that one is the North/ the other the South: the proof of which you will ſee in the following Chapter. ¶ But there is another better method of diſcovery of thoſe points: that you may obſerve the place on a wounded ſtone/ as has been ſaid/ where the end of the needle or of the iron adheres more frequently or more ſtrongly: for this place will be one of the points found by the method already deſcribed. ¶ In order therefore that you may have one point on the ſtone exactly/ break off a little piece from the needle or the iron/ which ſhall be in the ſhape of a bar of about the thickneſs of two fingers/ and place it on the ſpot

Where

Where the point has been already diſcovered by the ſaid method/ and if it ſtand upright on the ſtone/ Without doubt the point ſought for is there. If not/ move it until it does ſtand upright. Which being done/ mark the point there/ and in a ſimilar manner on the oppoſite ſide of the ſtone/ you Will find the oppoſite point. And if you have done this correctly/ and the ſtone is homogenic and chaire/ the points Will be directly oppoſite/ as the Poles on a ſphere.

Chapter 8. Of the ſcience of Finding the Poles in the ſtone: Which of them is the North/ and Which the South.

HAving obſerved the art of finding the Poles of this ſtone in general/ you Will aſcertain Which of them is the North and Which the South by means of the following method: Take a round Wooden veſſel/ in the ſhape of a cup or diſh/ and in it place the ſtone/ in ſuch a Way namely that the two points of the ſtone are equidiſtant from the edge of the veſſel: then place that veſſel/ With the ſtone placed within it/ in another veſſel/ a large one/ filled With Water/ ſo that the ſtone may be in the

first veſſel like a ſailor in a ſhip. But let the firſt veſſel be in the ſecond veſſel with plenty of wom/ like a ſhip floating in a river. And/ I ſay/ with plenty of wom/ in order that the natural motion of the ſtone may not be impeded by its contact with the edge of the large veſſel. For this ſtone/ ſo placed/ will turn its ſmall veſſel/ until the North pole ſtands in the direction of the Northern point of the ſky/ and the South pole in the direction of the Southern point. And if this ſtone be moved aſide a thouſand times/ a thouſand times will it return to its place or poſition by direction of God. And when the Northern and Southern parts are known in the heavens/ thoſe in the ſtone will be known alſo by means of them: becauſe each part of the ſtone will be in the direction of its own part of the heavens.

Chapter vi. How Magnet draws Magnet.

The diſcovery then having been made which is the North and which the South Pole in the ſtone/ mark the poles with inciſions/ ſo that you may be able to diſtinguiſh them as often as you need. And if afterwards you wiſh to ſee how ſtone attracts

attracts ſtone: Get ready in the followinq manner two ſtones/ prepared as has been ſaid. Place one in its veſſel/ ſo that it may float/ like a ſailor in his ſhip/ and let the points already found be equidiſtant from the Horizon/ or from the edge of the veſſel/ which is the ſame thing: but hold the other ſtone in your hand. And bring the Northern part of the ſtone which you are holding near to the Southern part of the ſtone floating in the veſſel: for the floating ſtone will then follow the ſtone which you are holding/ as if wiſhing to adhere to it: And if/ converſely/ you preſent the Southern part of the ſtone/ which you hold/ toward the Northern part of the floating ſtone/ the ſame thing will happen: namely/ the floating ſtone follows the ſtone which you are holding. Know you then as the rule/ that the Northern part in a ſtone attracts the Southern part in another ſtone/ and the Southern the Northern. But if you do the oppoſite/ namely/ bring the Northern part near the Northern/ the ſtone which you are carrying in your hand will ſeem to repel the floating ſtone/ and if you apply the Southern part to the Southern/ the ſame will happen: and in fact for this reaſon/ that the Northern part ſeeks the Southern: Wherefore it will ſeem to repel the Northern: of which there

is a token in the fact that the Northern part will in the end join itself to the Southern. ¶ But conversely a corresponding result takes place in respect to the other part/ the Southern: because if it is held out towards the Southern part of the stone that is floating/ you will see it repel it immediately. The same ocurs/ as has been said/ in the case of the Northern part presented to the Northern. ¶ And it is to be known that thus North seeks South/ and so South seeks North. And by this is overthrown the folly of certain/ who say that if Scammony attract jaundice by reason of similitude/ they will a magnet attract a magnet more than iron: which they suppose false when it is true/ as appears by experiment.

Chapter 5ij. How Iron touched with a Magnet turns to the Poles of the Earth.

AS is known to all who have tried it/ when an oblong piece of iron has touched a magnet/ and has been fastened to a light piece of wood or a straw/ and is put on water/ one part will move toward the star called the Nautical star/ for the reason that it is near the pole. For the truth is that it does not

not moꝛe toWard the ſaid ſtar/ but toWard the pole/ the proof of Which We Will affirm in its oWn Chapter: but the other part Will moꝛe toWard the other part of the heabens. But as to Which part of the iron moꝛes toWard Which part of the heabens/ you muſt knoW that the part of the iron Which ſhall habe touched the South of the ſtone/ Will turn toWard the North of the heabens. And the conberſe Will be the caſe concerning the part of the iron Which the North part of the ſtone ſhall habe touched/ for indeed it Will turn round to the South: And it is a Wonderful thing for one Who does not underſtand the cauſe of the motion of the iron: but epperience of this has proBed that We habe ſpoken the truth.

Chapter Biij. HoW a Magnet attracts Iron.

SHould you hold that it is in accordance With a natural appetite of the ſtone that it attracts iron floating or ſWimming on Water/ obſerBe the Northern part of the iron/ and bring near to it the Southern part of the ſtone/ for it Will followe it. Or/ on the contrary/ to the Southern part of the iron hold out the Northern part of the ſtone/ for it Will attract

tract it Without renitency. But if you ſhould do the oppoſite/ namely/ hold out to the Northern part of the iron the North of the ſtone/ it Will be ſeen to repel the iron/ until the Southern part is adjoined to the ſame iron: and ſimilarly you Would perceiue the ſame thing in regard to the other part. ☞ But if Violence be done to the parts/ namely/ if the Southern part of the iron/ Which has been touched With the Northern part of the ſtone/ Which is alſo called the Southern in the iron/ be joined to the Southern part of the ſtone/ the Virtue in the iron Will be eaſily altered in it/ and that Will become the South Which Was the North/ and conuerſely. And the cauſe of this is/ the impreſſion of that Which acted laſt/ confounding and altering the Virtue of the firſt.

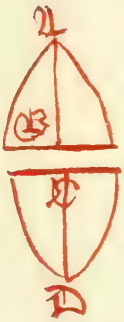
Chapter iv. Why the Northern part attracts the Southern/ and conuerſely.

But the Northern part of the ſtone attracts the Southern/ and conuerſely/ as has been ſaid/ and in its attraction/ the ſtone of ſtronger Virtue is actiue/ Whilſt that of the Weaker is paſſiue. But the cauſe of this thing I noW think is indicated in this Way:

The

The agent ſtrives not only to join its patient to itſelf/ but alſo to unite: ſo that out of agent and patient/ there may/ according to nature/ be made one. And this may be ſhown in the caſe of this Wonderful ſtone in this Wiſe: Take one ſtone/ Which you may repreſent by A D/ in Which A is the North/ Whilſt D is the South point. And divide it into tWo parts/ ſo that tWo ſtones are made out of it: AfterWard put the ſtone/ Which contains A/ on Water/ that it may float/ and you Will ſee that A Will turn toWard the North as before. For the breaking does not take aWay the properties of the parts of the ſtone/ When the ſtone is homogenic. And ſo that part of this ſtone juſt at the break/ Which is QB/ muſt needs be the South. Let this ſtone therefore/ concerning Which We have been ſpeaking juſt noW/ be repreſented by AQB: concerning the other/ that Which contains D/ if it be put to float on the Water/ you Will ſee that D Will be the South as before/ becauſe it Will turn to the South if put on the Water. But the other part/ Which may be called C/ in the region of the break/ Will be the Northern part. This ſtone then Will be CD. Let the firſt ſtone AQB be the agent/ and let CD be the patient: and ſo you ſee that the tWo parts of the tWo ſtones/ Which





before

before the separation were continuous in one stone/ are found after the separation the one to be a Northern part/ the other a Southern. But if the same parts be brought near one another again/ the one attracts the other/ until they are joined together in the point BC where the break had been: Whilst as far as the natural appetite is concerned/ they will make one body as at first/ a sign of which is that/ if they are cemented there/ they will exercise the same operations as at first.



Therefore the agent/ as you see by the experiment/ strives to unite its patient to itself/ but this is done by reason of the similitude betweeu them. Therefore/ when B is joined to C/ by the virtue of attraction there must be one line made of the agent and the patient/ according to this manner ABCD/ so that BC becomes one point. For in this union there is retained or preserved the identity of the extreme parts/ in the likeness in which they were at first: for A is the North in the united line/ just as it was in the divided line. In the same manner D/ the Southern point/ as it was in the divided passive portion/ so it is also in the same united: but BC is made one and the same. In the same manner it happens/ if A is joined to D/ that the two lines become one/ by

virtue

virtue of the very union of the attraction/ according to this arrangement CDAB/ so that DA is one point: they the identity of the extreme parts will remain/ just as at first before they were united: for C is a North point: whilst B is a South/ just as it was before while they were separated.

But if it were done otherwise/ this identity or similitude of the parts would not be preserved. For you see that if C be joined to A/ which is contrary to the truth we have discovered/ so that out of those two lines one line is made according to this order/ BACD/ since C is in the point D/ which was the South before they were united/ it is required in this whole line that B/ the other end/ should be the Northern. So/ the former identity or likeness is dissipated. Or if you take B as the Southern/ as it was before they were united/ it is required that D/ the other part/ should be the Northern/ though nevertheless it was the Southern. And so here neither identity nor similitude is preserved. For that/ which has now been converted out of two into one/ must be in the same species as the agent/ which would not be so/ if nature were to choose that impossible arrangement. But the same incongruity will ocur if you join D with B/ so that there is made one



line according to this arrangement/ ABDC/ as is plain to him Who considers. ℙ For Nature tends towards being/ or acts in the better Way in Which it can: It chooses first the first order of action or of method in Which the identity is better preserved than in the second. ℙ It is clear therefore from these considerations/ Why the South attracts the North/ and conversely. But South never naturally attracts South/ nor North North.

Chapter 9. Of the inquiry Whence the Magnet receives the natural Virtue Which it has.

CErtain feeble investigators of Nature however have supposed/ that the Virtue by Which the Magnet acts upon iron exists in the mineral districts/ in Which the Magnet is found/ Whence they say/ that though iron moves toWard the Poles of the World/ yet this Would not be so unless a mine of the stone existed in those parts. But they ignore that this said stone is found in diverse parts of the World/ from Which it should followW that it Would move toWard diverse parts of the World/ Which is false. And again they ignore that the part under the pole is uninhabitable/ because half the year

ȳear there is day/ and the other half night/ Where=
fore it is fooliſhneſs to ſuppoſe that the Magnet
can be brought to us from thoſe parts. Moreover/
ſince the ſtone or iron turns as much to the
Southern part/ as to the Northern/ as is clear
from What has been ſaid above/ We are right in
deeming that the Virtue in the poles of the ſtone
flowes in not only from the Northern part/ but
alſo from the Southern part/ rather than from a
mineral diſtrict. An eVident token of Which is/
that Whereſoever man has been/ he ſees that the mo=
tion of this ſtone is to his eye according to the
poſition of the meridian circle. For all meridian
circles meet in the poles of the World/ Wherefore
it is manifeſt/ that it is from the poles of the
World that the poles of the magnet receiVe their
Virtue. And from this it is manifeſtly apparent/
that it does not moVe toWards the nautical ſtar/
ſince the meridian circles do not meet thereat/ but
in the poles. For the Nautical ſtar is alWays
found outſide the meridian circle of any region
Whateſoever/ except tWice in one complete reVolution
of the firmament. From theſe facts therefore it
is manifeſt/ that it is from the poles of the
heaVens that the poles of the magnet receiVe their
Virtue. ¶ But you may reckon that the remain=

ing parts of the ſtone receiue their influence from the other parts of the heauens: ſo that in this Way We may ſuppoſe not only that the poles of the ſtone receiue their influence and virtue from the poles of the World/ but that the Whole ſtone does ſo from the Whole heauens: Which I adviſe you to teſt in the followIng manner. Let a ſtone be rounded/ and the poles found in it/ and afterWards diſpoſe the ſtone upon tWo ſharp ſtyles/ ſo that at each pole one ſtyle is gently fixed in its ſocket in the ſtone/ ſo that in fact the ſtone may moue on them Without difficulty. Which being done/ try Whether the poles or parts of the ſtone are euenly balanced/ by turning it gently about the ſaid poles: and this you ſhall do many times/ and at many different hours of the day With Wiſe induſtry. That being done/ arrange the ſtone on the meridian circle/ on its piuots/ fixed lightly in the poles of the ſtone/ that it may moue in the manner of Armillaries/ in ſuch Wiſe that the elevation or depreſſion of its poles may be in accordance With the elevation and depreſſion of the poles of the heauens in the region in Which you are. NoW if the ſtone they moue according to the motion of the heauens/ reioice that you haue arriued at a ſecret marvel. But if not/ let it be

aſcribed

aſcribed rather to your own Want of ſkill than to a defect of Nature. But in this poſition/ or mode of placing/ I deem the Virtues of this ſtone to be properly conſerved/ and I believe that in other poſitions or parts of the ſky its Virtue is dulled/ rather than preſerved. By means of this Inſtrument at all events you will be relieved from every kind of clock/ for by it you will be able to know the Aſcendant at Whatever hour you wiſh/ and all the other diſpoſitions of the heavens Which Aſtrologers ſeek after.

Beginneth

Beginneth the Second Part of this Treatiſe/ of Which the Firſt Chapter is of the Conſtruction of an inſtrument by Which is knoWn the Azimuth of the Suy/ and of the Moon/ and of any Star on the Horizon.

THe natural operations of the Magnet having beeu vieWed/ let us paſs on to the ingenious contriuances Which depend on a knoWledge of its natural Worki-ing. Let thes a round magnet be taken and its poles found/ as has been deſcribed/ and let it be filed doWn betWeen the tWo poles on the tWo ſides/ ſo that the ſtone may be like a ſphere compreſſed betWeen the tWo poles/ in order that it may occupy a ſmaller ſpace. Let this ſtone indeed thus prepared/ be ſhut up in the middle betWeen tWo capſules in the manner of a mirror: And let the capſules be ſo joined to one another/ that they ſhall not be opened any more and that no Water can make its Way in. Let the capſules be prepared With cement ſuitable for this purpoſe/ and let the capſules be of light Wood. This being done/ place the capſules thus fitted up in a large veſſel/ filled With Water/ in Which the tWo parts of the World/ namely/ the South and the North/ have been found

found and knowȳ or marked: and let themȳ be indicated bȳ means of a thread ſtretched from the Northerȳ part of the veſſel to the Southerȳ part. Then ſet the capſules to float/ and let there be a thiȳ ſtrip of Wood ouer themȳ in the poſitiȯ of a diameter. Let this ſtrip of Wood be moued ouer the boyes/ until it is equidiſtant from the meridian line/ previouſlȳ found and indicated bȳ means of the thread/ or is in the ſame line With it. Which being done/ according to the poſitiȯ of this Wood ſo ſituated or marked/ mark the line oȳ the capſules: and it Will be alWaȳs the meridian line in everȳ regiȯ or kingdom. D Let this line thenȳ be diuided throughȝ the middle bȳ another line cutting the ſame at right angles/ and that ſhall be the line of Eaſt and Weſt: and ſo ȳou Will haue the four quarters actuallȳ marked oȳ the boyes/ denoting the four parts of the World. Each of theſe ſhould be diuided inȳo 90 parts/ ſo that there maȳ be in all 360 parts in the Whole circumference of the boyes. And engraue the parts upoȳ it/ juſt as theȳ are Wont to be engraued oȳ the back of aȳ Aſtrolabe. There ſhall be moreouer a narroW light bar ouer the capſules thus engraued/ like the rule at the back of aȳ Aſtrolabe: In place hoWeuer of the ſights/ let tWo ſpikes be ſet upright oȳ

the

the ends of the rule. ☞ If they you wiſh to haue the Azimuth of the ſun/ by day/ place the capſules in Water/ and permit them to moue freely/ until they ſettle in their proper poſition. And hold them firmly ſo with one hand/ and with the other moue the rule/ until the ſhadow of the ſpike falls along



its length/ and they the end of the rule on the ſide of the ſun will ſhow the ſun's Azimuth. If there is a Wind/ let the boxes be couered ouer with ſome veſſel/ until they haue found their poſition. At night/ on the other hand/ you may do the ſame with the Moon and Stars by ſight: for you ſhall moue the rule/ until the tops of the

ſpikes

ſpikes and the Moon or the Star are in the ſame line. For the end of the rule on the ſide of the Star or Moon Will indicate its Azimuth/ as formerly. Moreover by means of the Azimuth you Will aſcertain fully the hours/ and the Aſcendant/ and all the things Which are neceſſary/ according to the ſcience of the Aſtrolabe. But the form of this inſtrument is ſhoWn by the preſent figure.

Chapter ij. Conſtruction of another better and more certain Inſtrument/ for the ſame purpoſe.

In this chapter We Will tell you the method of conſtruction of another better and more certain Inſtrument. Let a veſſel be made of Wood/ or braſs/ or of any ſolid material/ and let it be formed or turned in the faſhion of a boy/ not very deep/ and let it be Wide enough. And let there be fitted over it a lid of tranſparent material/ ſuch as glaſs or cryſtal. And if even the Whole veſſel is alſo of a tranſparent material/ it Will be the better. So let there be arranged in the middle of the veſſel itſelf a ſlender Axis of braſs/ or of ſilver/ fitting at its extremities to the tWo parts of the boy/ namely the upper and the loWer.

Chapter iij. Of the Conſtruction of a certain Wheel Which Will moue continually and perpetually.

IN this chapter I Will reueal to you the Way of conſtructing a continually moving Wheel/ elaborated With marvellous ingenuity/ in the purſuit of Which inVention I haue ſeen many people Wandering about/ and Wearied With manifold toil. For they did not obſerue that they could arriue at the maſtery of this by means of the Virtue/ or poWer of this ſtone. ☞ For the conſtruction of this Wheel/ you ſhall prepare a ſilver caſe/ like the caſe of a mirror/ hollowed out/ Worked Within With ſkilful Workmanſhip/ With carVings and perforations/ Which you ſhall make for the mere ſake of beauty/ and of lightening the Weight: for the lighter it ſhall be the more ſWiftly Will it moue. You ſhall hoWever make the perforations ſo/ that the eye of the ignorant may not perceiue inſide the caſes/ What is cunningly put therein. But inſide let there be ſmall claWs or teeth of iron/ of one Weight/ fixed to the edge/ ſloping/ near to one another/ ſo that they be not diſtant from one another more than the breadth of a bean or the thickneſs

thickneſs of a pea. But let the ſaid Wheel be uniform in the Weight of its parts. And they fix an axis through its middle/ about Which the Wheel may revolve/ the axis remaining quite immovable. To this axis alſo let a ſmall ſilver bar be added/ fixed to it/ ſituated betWeen the tWo caſes/ at the end of Which let a Magnet be ſet/ prepared in this manner. ☞ Let it be rounded and its poles found/ as has been ſaid. AfterWard let it be faſhioned in the ſhape of an egg/ Without touching the poles/ and let it be thinned doWn a little on tWo oppoſite ſides betWeen the poles/ ſo that it may be flattened in ſhape/ in order that it may occupy leſs room/ ſo that it may not touch the ſides of the caſe on the inſide/ in the motion of the Wheel. And having been ſo faſhioned/ let it be placed on the ſmall bar/ like a ſtone in a ring/ and let the North pole be a little inclined toWard the teeth of the Wheel/ ſo that its Virtue may floW into the iron teeth not along a diameter/ but With ſome inclination: ſo that When any tooth ſhall have come to the North pole/ and ſhall have paſſed a little beyond the ſame in conſequence of the impetus of the Wheel/ it may approach the Southern part/ Which Will repel rather than attract it/ as is clear from the rule propounded above. And ſo each tooth Will more

continually

continually in a perpetual state of attraction. ¶ And in order that the Wheel may fulfil its part the more swiftly/ shut up between the cases a little round head of brass or silver/ of such a size as may be contained between any two teeth: so that when the Wheel is raised/ the head will fall



on the opposite side. Wherefore when the motion of the Wheel is continuous toward one side/ the fall of the head also will likewise be continuous toward the opposite side/ being received between each pair of teeth of the Wheel perpetually: and seeking by its weight the centre of the Wheel or of the Earth/ it will prove an assistance/ and will

not

not let the teeth rest in a direct line With the stone. But let the spaces betWeen the teeth be conBeniently weesſed/ ſo that they may be able to hold the head properly in the direction of its fall/ as the preſent deſcription ſhoWs. P FareWell.

Finiſhed in camp/ at the ſiege of Lucera/ in the year of our Lord 1269/ on the 8th day of Auguſt. Endeth this Treatiſe.

This Epiſtle of Peter Peregrinus/ On the Magnet/ Written in 1269/ is done into Engliſh by Silvanus P. Thompſon from the printed Latin verſions of Gaſſer 1558/ Bertelli 1868/ and Hellmann 1898/ and amended by reference to the manuſcript copy in his poſſeſſion/ formerly amongſt the Phillipps Manuſcripts/ dated 1391: and it is noW printed in the year 1902/ in the Caxton type/ by Charles Whittingham and Company/ at the Chiſwick Preſs/ to the number of 240 copies/ of Which this is No.???. Rubricated by H.G.B.